Key to **Hylaeus** species known from MO (males and females)
Observations mostly at 40X with a fiber optic ring light
Revised May 21, 2009 M. Arduser

1. Fore coxae laterally with a single short spicule, best seen in oblique view (males and females); propodeum smooth, shiny, unsculptured except at base; restricted to mesic and dry-mesic forests and woodlands, and occasionally glades, where usually found visiting various Apiaceae…….....…….....***sparsus*** (Cresson)

   Fore coxae simple laterally (i.e., without a spicule); propodeum usually more extensively sculptured, rarely smooth and shiny; found in various habitats…….....2

2. **Males** (13 antennal articles, 7 abdominal segments, no sting).....3
   Females (12 antennal articles, 6 abdominal segments, sting present).....11

3. Face marks above turning away from eye margin, curving towards, or partially embracing, antennal bases
   .....…….4
   Note: floridanus (Robt.) – a Paraprosopis - would key here if found in Missouri

   Face marks largely remaining in contact with eye margin, if leaving eye margin then not curving towards antennal bases…….....….6

4. Pleural punctures large, distinct; T2 densely and distinctly punctate; pronotal collar, pronotal lobes, antennal scapes and tegulae all marked with pale yellow; an uncommon introduced species found in urban and disturbed habitats.....***leptocephalus*** Morawitz

   Pleural punctures fine, sometimes obscure; T2 punctures faint, often obscure; yellow markings various but not as above.....…….....…….5

5. Clypeus flattened basally, not evenly convex in profile; face marks above constricted after leaving eye margin, then lobate above antennal bases; prontal lobes usually yellow; common, widespread species found in many habitat types..... ***mesillae*** (Cockerell**)**

   Clypeus evenly convex in profile, not flattened at base; face marks above tapering acutely after leaving eye margin, barely reaching antennal bases; pronotal lobes usually black; characteristic species of riparian corridors and stream edge..... ***fedorica*** (Cockerell)

6. T1 (and sometimes part of T2) red or orange; wetland-associated species……..7

   T1 concolorous with remaining tergites; various habitats……8

7. ST 3 usually with a pair of low tumescences medially; scutum anteriorly with punctures distinctly separated; fore tibia yellow on outer face……..…***nelumbonis*** (Robertson)

   ST 3 flattened, no tumescences medially, and scutum anteriorly with punctures more-or-less confluent, roughened, not distinctly separated by flattened interspaces; fore tibia orangeish on outer face…….....……....***ornatus*** Mitchell *(in part)*

8. ST 3 (and sometimes ST 4) with a pair of low tumescences medially; sternite 7 densely fringed with plumose hairs; face marks usually truncate above; widespread species found in many habitat types……....***affinis*** Smith

   ST 3 and ST 4 simple, unmodified medially; sternite 7 thinly fringed with plumose hairs; face marks variable, but sometimes truncate above as in typical *affinis*…....…..…9

9. Penis valves with dorsal crests widely separated (space between them nearly equaling width of gonocoxite), this space forming a pocket or cavity between them; T1 relatively shiny, the punctures distinct and about 1-3 punctures widths apart; T1 microsculpture (if evident) distinctly less than that on T2; common, widespread species found in many habitat types ….....…….... ***sp. A***
   [Note: there is possibly a name for this species buried in the synonymy of modestus s.l.]

   Penis valves with dorsal crests quite close together, space between them much less than width of gonocoxite, not resembling a pocket or cavity; T1 variable, shiny or dull, punctate or not……10

10. T1 quite shiny, very faintly punctate, punctures widely separated and hardly visible at 40X; T2 quite different in appearance, more distinctly and more densely punctured, but much less shiny; mandibles and labrum usually dark; a common, widespread species found in many habitat types.....***illinoisensis*** (Robertson)
    [*Dark forms of ornatus will key here but can be separated from illinoisensis by the coarser punctation of the scutum; see couplet 7 above]*

    T1 and T2 similar, both finely, densely punctate, and not shiny; mandibles and labrum usually yellow….....……***modestus*** Smith

11. Pleura with fine, faint or indistinct punctures; apical margins of T1 laterally bare, without small white patches of pubescence (fasciae); hairs of ST 6 pale in color.....12

    Pleura with larger, coarser, closer and more distinct punctures, **and/or** fasciae usually present on lateral margins of T1, **and/or** hairs of ST 6 brown, not pale.....…..13

12. Punctation of scutum fairly dense, punctures distinct; face marks usually broad and triangular, usually filling space between margin of clypeus and margin of eye; clypeus usually with a yellow spot or mark (more or less in bottom center of clypeus), prontal tubercles and tegulae with yellow maculae; a common, widespread species found in many habitat types……. .....***mesillae*** (Cockerell)

    Punctation of scutum faint, especially anteriorally, punctures indistinct and well-separated; face marks narrow, not triangular, and not filling space between clypeus and eye; clypeus without maculae; pronotal tubercles and tegulae dark, without yellow maculae; characteristic species of riparian corridors and stream edge ….....……....***fedorica*** (Cockerell)

13. Propodeum posteriorally encircled by an irregular carina; central groove of posterior face of propodeum broad; metanotum punctate like scutellum; T1 laterally without fasciae; uncommon introduced species found in urban and disturbed habitats .....***leptocephalus*** Morawitz

    Propodeum posteriorally without any trace of an encircling carina; central groove of posterior face of propodeum much narrower; metanotum minutely reticulate, unlike the punctate scutellum; T1 laterally usually with fasciae.....14

14. T1 (and occasionally parts of T2) largely orange to reddish in color; species usually strongly associated with wetlands.....15
    T1 entirely black; found in many habitat types incl. wetlands.....”***modestus*** group”
    [Females of ***H. modestus, H. affinis****,* ***H. illinoisensis*** *and* ***H. (undescribed?) sp. A*** *all key to this point, and while there are some recognizabledifferences among them, the four species but do not seem to be reliably separated from each other at this point (but see male key). (Males of) all four species occur statewide in a variety of habitat types; none are natural community-dependent.]*
    Occasional females of <u>*ornatus*</u> *may have T1 largely dark but can be separated from the “modestus-group” by the coarser punctation of the anterior scutum; the four spp. in the modestus-group have the anterior scutum closely and densely punctate but the punctures are distinct and separated, not contiguous and not roughened-punctate.*

15. T1 length x width about equal, and T1 somewhat constricted when compared to T2; T1 shiny, largely impunctate (with very few weak, scattered punctures); propodeum almost entirely reticulate, though more minutely so laterally; anterior portion of scutum roughened-punctate, punctures contiguous in part; pleural punctures with interspaces strongly tessellate, not at all shiny.....***ornatus***

    Similar to the above, but punctures of anterior portion of scutum with smooth, more-or-less tessellate interspaces, the punctures close but distinct, not contiguous and not roughened-punctate.....***nelumbonis***